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AUTHOR Cooley, Carl R.; And Others
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ABSTRACT

Comparisons were made of test scores derived from a sample of American Indian students attending grades 2 through 10, living in a Bureau of Indian Affairs dormitory, and enrolled either in an English as a Second Language Program (N=43) or in the regular school program (N=87) to determine ESL impact on Indian students' English vocabulary, comprehension, and scholastic ability. Measurements were made via use of: the Wide Range Achievement Test (WRAT, administered as pre- and post-tests to both groups); the Gates-MacGinitie Reading Test (given to 9th and 10th grade students only); and Grade Point Average (GPA, used to determine who went into the ESL program). The study period was five months. Analyses of covariance were employed for purposes of comparison and hypotheses testing. Results indicated no difference in reading level advancement due to ESL treatment. Although there was confirming evidence for reliability (test-retest) and concurrent validity (correlation) for the WRAT and the Gates-MacGinitie standardized tests, the relatively consistent negative relationships between these measures and grades proved puzzling. It was concluded that close examination of teacher grading criteria and standarized test objectives would provide some insight into the discrepancy. (JC)

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INDIAN EDUCATION RESOURCES CENTER
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THEME: SCHOOLS BELONG TO THE PEOPLE

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A COMPARISON OF ENGLISH AS A SECOND LANGUAGE PROGRAM AND NORMAL CLASSROOM INSTRUCTION WITH INDIAN STUDENTS IN READING

by
Carl R. Cooley
Bob M. Vanosdol
D.M. Johnson

The ability of Indian students to learn English as a second language (ESL) has been a subject of controversy especially in areas where the students are from reservations and thus those who are limited in obtaining an English background. These students for the most part do not learn English until they are exposed to a public school. To these students English is a foreign language which must be learned in order for them to cope with non-Indian cultures.

Studies in Indian education have revealed the need for special programs in teaching the English language to Indian students. However, very little research has been done to see if the effects of such a program would really improve, to any extent, the ability of the Indian student to succeed in a "normal" public school (Bass, 1969). The need for additional research concerning English being taught as a second language to Indian students has been expressed in the literature (Bass, 1969).

Bowd (1972), in a study of Indian students in Canada, suggested that the principal reason for language problems in school was inadequate exposure to English rather than the use of the native language. He makes the following comment that the most apparent need for Indian boys that were tested is special training in the English language.

Research has attempted to show that the normal classroom procedures are insufficient for teaching English to Indian students due to their limited verbal stimulation in English and their cultural differences. Theoretically, if programs that emphasize English as a second language were devised, based on the need of the students, then the students would better understand and would be able to cope with the English language and the multi-cultural society.

PURPOSE

The purpose of this study was to investigate the following: (1) Will the Indian students' English vocabulary, comprehension, and scholastic ability be affected in a program which teaches English as a second language? (2) Is there a difference between the reading level

advancement (RLA) as measured by a reading vocabulary test and/or comprehension test? (3) Will the reading levels and grade point (gpa) for Indian students be related?

HYPOTHESES

To accomplish the purpose of the study, the following hypotheses were tested: (1) There will be a significant difference in the mean reading level advancement of dormitory Indian students in an ESL program and dormitory students who have normal classroom English instruction. (2) There will be a significant difference in the mean RLA of high school students in the ESL program and high school students who have normal classroom English instruction, as measured by the Wide Range Achievement Test (WRAT). (3) There will be a positive relationship between reading levels of the students and their overall gpa.

SUBJECTS

The sample population for this study were all students at a BIA dormitory facility in the second through the tenth grades. Twenty-seven students in the total group were excluded from the study because of the following: they were not tested, did not live in the dormitory at testing time or they moved from the dormitory during the course of study. Thus, the total N was 130. There were 43 students in the ESL program and 87 students in the control group. There were 16 high school students, nine students from the 7th and 8th grades (junior high), and 18 elementary students in the ESL program. In the control group, there were 53 high school students, 19 junior high students, and 15 elementary students. The sample consisted of 25 males and 18 females in the ESL program and 46 males and 41 females in the control group. All of the students had lived on the reservation before coming to the dormitory and attending the public school. All of the parents or guardians lived on the reservation.

TESTS

1. The Wide Range Achievement Test (WRAT), Level 2, 1965 Edition. This test was administered as a pre-test and post-test to both groups.

2. The Gates-MacGinitie Reading Test, Survey E, Form 1M, 1964 Edition. This test was given to the ninth and tenth grade students only.

3. Grade point averages (gpa) for the school year were computed at the conclusion of the school year on a standard four-point system.

The WRAT and Gates-MacGinitie were used because the vocabulary sections seemed to provide an adequate indicator of sight vocabulary recognition. It was assumed that these two tests would measure vocabulary reading and would complement each other though one was a group test and one an individual test.

PROCEDURES

All of the students at the dormitory in the second through the 10th grades, except those excluded, were pre-tested with the WRAT in November. The public school provided scores of the Gates-MacGinitie vocabulary and comprehension tests given the preceding school term or at the beginning of the term in which the study was conducted.

As a result of the score on the pre-test of the WRAT, the gpa, and school counselor recommendations, students were placed in the ESL program or the control group. Students who were below grade reading level 2 and ½ years and/or who had grades that were unsatisfactory were placed in the ESL program.

The control group was given the normal public school class instruction in English. They had their regular study hall at the dormitory and they received regular counseling as necessary. No other attempts were made to control them.

The ESL program was given the normal class instruction in English, regular study hall, and regular counseling as necessary, plus the ESL training. The treatment for the ESL program consisted of three hours of class instruction per week in communication, language games, and assistance in homework. ESL tutors provided the ESL group instruction in auditory and articulatory phonetics. The language games were used extensively as instructional tools and for motivational purposes. In addition to the language work, they were provided with counseling in adjusting to a multi-cultural society and other related areas deemed necessary by the ESL tutors. The time period of the study was one semester (5 months).

DATA ANALYSIS

At the completion of the treatment period, all students were post-tested with the WRAT, and the high school students were given the post-test with the Gates-MacGinitie. Grade point averages were computed for the year.

An analysis of covariance was used to compare the adjusted means between the two groups on the post-test of the WRAT using the pre-test WRAT results as the control variable. Further, an analysis of covariance was used to test the differences between the adjusted post-test results of the WRAT mean scores of the two high school groups

with the pre-test WRAT scores used for control. The null hypotheses were tested for the overall ESL and control groups and the two high school groups adjusted mean scores.

For hypothesis three, correlations were calculated on the pre-test, post-test of the WRAT and the grade point averages of the combined (total) group, the high school ESL and control group, the junior high ESL and control group, and the elementary ESL and control groups. Product-moment correlations were computed on the combined high school WRAT scores, Gates-MacGinitie vocabulary and comprehension scores, and gpa's of the ESL and control groups. Further correlations were computed for the combined high school groups, the combined junior high and elementary groups.

Mean reading level advancement was obtained from mean scores of the pre- and post-test of the WRAT and the Gates-MacGinities vocabulary and comprehension. The scores were computed in months for the comparison.

RESULTS

Table 1 shows the analysis of covariance for the ESL program and the control mean scores of the WRAT using pre- and post-tests. This analysis was used to test for differences in mean RLA of the total ESL group compared with the total control group. The table shows no statistically significant difference in the reading level advancement between the ESL group and the control group with initial differences controlled.

TABLE 1

ANALYSIS OF COVARIANCE BETWEEN THE ESL GROUP AND CONTROL GROUP ADJUSTED MEAN SCORES ON THE WRAT

SOURCE OF VARIANCE	RESIDUALS DF	SS	MS	F
BETWEEN	1	26.60	26.60	.67*
WITHIN	127	5036	39.65	
TOTAL	128	5062		

*p .05 (not significant)

Table 2 shows the criterion and control variable means for the ESL and control groups. It can be seen that there was a large difference between the pre-test means of the ESL and control groups; however, this was expected as low reading level was one of the criterion for placement in the ESL group.

TABLE 2

CRITERION AND CONTROL VARIABLE MEANS FOR THE ESL AND CONTROL GROUPS

		CRITERION			CONTROL	
GROUP	N	Adjusted $\bar{X}$	Non-Adjusted $\bar{X}$	& S.D.	PRE-WRAT $\bar{X}$	& S.D.
ESL	43	75.21	63.60	13.26	56.47	13.45
CONTROL	87	74.15	79.89	20.32	75.21	20.64

Table 3 shows the analysis of covariance for the high school ESL and control groups adjusted means of post-test WRAT scores. There were no significant differences in the mean RLA of the two high school groups as measured by the WRAT.

TABLE 3

ANALYSIS OF COVARIANCE BETWEEN THE HIGH SCHOOL ESL GROUP AND THE HIGH SCHOOL CONTROL GROUP ADJUSTED MEAN SCORES ON THE WRAT

SOURCE OF VARIANCE	RESIDUALS DF	SS	MS	F
BETWEEN	1	1.43	1.43	0.04*
WITHIN	66	2523	38.22	
TOTAL	67	2524		

*p .05 (not significant)

Table 4 shows the criterion and control variable means for the high school and control groups. The same differences in mean reading levels between the two groups was noted as expected. The overall mean reading levels of the high school group would be expected to be higher; however, there were several low readers in both groups at the high school level.

TABLE 4

CRITERION AND CONTROL VARIABLE MEANS FOR THE HIGH SCHOOL ESL AND CONTROL GROUPS

		CRITERION			CONTROL	
GROUP	N	Adjusted $\bar{X}$	Non-Adjusted $\bar{X}$	& S.D.	PRE-WRAT $\bar{X}$	& S.D.
ESL	16	83.56	73.81	7.47	68.50	8.15
CONTROL	53	83.94	86.89	17.68	82.51	17.96

Table 5 shows the analysis of covariance of the high school ESL and control group adjusted mean scores of the Gates-MacGinitie Vocabulary test. There was no difference in RLA between the ESL group and the control group. Table 6 shows the pre-, post-, and adjusted post-test mean scores.

TABLE 5

ANALYSIS OF COVARIANCE BETWEEN THE HIGH SCHOOL ESL GROUP AND CONTROL GROUP ADJUSTED MEAN SCORES OF THE GATES-MACGINITIE

SOURCE OF VARIANCE	RESIDUALS DF	SS	MS	F
BETWEEN	1	234.5	234.5	.67*
WITHIN	66	23180	351.3	
TOTAL	67	23420		

*p .05 (not significant)

TABLE 6

CRITERION AND CONTROL VARIABLE MEANS FOR THE HIGH SCHOOL ESL AND CONTROL GROUPS

		CRITERION			CONTROL	
GROUP	N	Adjusted $\bar{X}$	Non-Adjusted $\bar{X}$	& S.D.	PRE-WRAT $\bar{X}$	& S.D.
ESL	16	84.49	75.69	11.99	70.12	20.04
CONTROL	53	89.08	91.74	26.56	85.25	20.21

It can be seen that the mean scores of the two groups on the WRAT and GM Vocabulary show similar results.

The first two hypotheses which deal with RLA between the two groups were not supported. There was no difference between the two groups reading level advancement as measured by the WRAT Level two and for the high school students, the GM Vocabulary test results were similar.

The correlation between the control and criterion variables for the high school control students are displayed in Table 7. As shown, the correlations between the WRAT pre- and post-test, the GM Vocabulary pre- and post-test, the GM Vocabulary and GM Comprehension pre- and post-test are all high.

TABLE 7

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF HIGH SCHOOL CONTROL STUDENTS

	1	2	3	4	5	6	7
1.	1.000						
2.	.935	1.000					
3.	.848	.759	1.000				
4.	.853	.879	.717	1.000			
5.	-.389	-.360	-.203	-.288	1.000		
6.	.735	.681	.647	.698	-.376	1.000	
7.	.761	.757	.608	.700	-.424	.788	1.000

Numbers 1 through 7 represent the following:

1. WRAT pre-test
2. WRAT post-test
3. Gates-MacGinitie vocabulary pre-test
4. Gates-MacGinitie vocabulary post-test
5. Grade point average
6. Gates-MacGinitie comprehension pre-test
7. Gates-MacGinitie comprehension post-test

The comprehension section of the GM did not correlate as well with the WRAT as the GM Vocabulary section. It was found in this study that correlations for this group between the standardized tests and gpa was negative.

Table 8 shows the correlations for the variables of the high school ESL group. The ESL group had a lower correlation between the various tests than did the high school control group.

TABLE 8

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE HIGH SCHOOL ESL STUDENTS

	1	2	3	4	5	6	7
1.	1.000						
2.	.706	1.000					
3.	.354	.509	1.000				
4.	.363	.368	.179	1.000			
5.	.323	.169	-.085	-.389	1.000		
6.	.427	.575	.800	.574	-.119	1.000	
7.	.318	.321	.534	.647	-.334	.729	1.000

Numbers 1 through 7 represent the following:

1. WRAT pre-test
2. WRAT post-test
3. Gates-MacGinitie vocabulary pre-test
4. Gates-MacGinitie vocabulary post-test
5. Grade point average
6. Gates-MacGinitie comprehension pre-test
7. Gates-MacGinitie comprehension post-test

The gpa's correlated low positive with WRAT pre- and post-test scores, yet low to middle negative correlations for the GM scores with gpa's.

Table 9 shows the correlations between the pre-and post-tests of the WRAT for the junior high control students. Again, the WRAT pre- and post-test scores correlated very high; however, the tests correlated medium to high **negative** with gpa.

TABLE 9

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE JUNIOR HIGH CONTROL STUDENTS

	1	2	3
1.	1.000		
2.	.964	1.000	
3.	-.672	-.642	1.000

Correlations for the junior high ESL group are shown in Table 10. For this group, the WRAT pre- and post-tests had a relatively low positive correlation. For gpa's and reading scores on the WRAT pre- and post-tests, there was very little correlation. The post-test correlated negatively with gpa.

TABLE 10

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE JUNIOR HIGH ESL STUDENTS

	1	2	3
1.	1.000		
2.	.316	1.000	
3.	.044	-.449	1.000

Numbers 1 through 3 represent the following in both tables:

1. WRAT pre-test
2. WRAT post-test
3. Grade point average

For the elementary control group variables, as shown by Table 11, it was found that the WRAT pre- and post-test scores correlated very high. However, again it was found that the gpa correlated negatively with the WRAT pre- and post-test results.

TABLE 11

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE ELEMENTARY CONTROL STUDENTS

	1	2	3
1.	1.000		
2.	.971	1.000	
3.	-.135	-.159	1.000

For the elementary ESL group, there was a higher **negative** correlation between the gpa and reading levels than the control groups. This is different from the findings with the high school and junior high school groups.

TABLE 12

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE ELEMENTARY ESL STUDENTS

	1	2	3
1.	1.000		
2.	.869	1.000	
3.	-.487	-.699	1.000

Numbers 1 through 3 represent the following in both tables:

1. **WRAT pre-test**
2. **WRAT post-test**
3. **Grade point average**

Table 13 shows the correlations for the total high school group (combined ESL and control). When the groups were combined, the gpa was more negatively correlated with other variables from the standardized test scores.

TABLE 13

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE COMBINED HIGH SCHOOL GROUPS

	1	2	3	4	5	6	7
1.	1.000						
2.	.932	1.000					
3.	.790	.736	1.000				
4.	.840	.864	.665	1.000			
5.	-.400	-.389	-.268	-.361	1.000		
6.	.732	.698	.704	.706	-.413	1.000	
7.	.745	.741	.636	.713	-.484	.805	1.000

Numbers 1 through 7 represent the following:

1. WRAT pre-test
2. WRAT post-test
3. Gates-MacGinitie vocabulary pre-test
4. Gates-MacGinitie vocabulary post-test
5. Grade point average
6. Gates-MacGinitie comprehension pre-test
7. Gates-MacGinitie comprehension post-test

Table 14 shows the correlations between variables of the elementary and junior high groups combined. The same overall pattern was found for this group as for the combined high school groups.

TABLE 14

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE ELEMENTARY AND JUNIOR HIGH COMBINED GROUPS

	1	2	3
1.	1.000		
2.	.929	1.000	
3.	-.490	-.554	1.000

The correlations for the total sample are shown in Table 15.

TABLE 15

CORRELATION BETWEEN CONTROL AND CRITERION VARIABLES OF THE TOTAL COMBINED GROUPS

	1	2	3
1.	1.000		
2.	.949	1.000	
3.	-.331	-.358	1.000

Numbers 1 through 3 represent the following in both tables:

1. WRAT pre-test
2. WRAT post-test
3. Grade point average

DISCUSSION

The purpose of this study was to test for the effects of an English as a second language program on Indian students' reading achievement who were from a reservation and who had little or no English background. The students were attending public schools and residing in a BIA dormitory facility.

A quasi-experimental (pre—post-test) design utilized the WRAT level two to measure reading level and analysis of covariance for hypothesis testing. The results of this study showed no difference in reading level advancement due to the ESL treatment.

From the results of this study, it is tenable that the ESL program that was used is no more effective in advancing reading level than normal classroom instruciton. This is not to imply that the ESL program was ineffective. Indeed, both groups did advance and show gain in reading achievement. In addition, pertinent outcomes such as student satisfaction with school, attitudes, absenteeism, change in cultural awareness, and other important dependent variables were not examined in this study. These remain areas for further investigation.

Although the study did provide confirming evidence for reliability (test-retest) and concurrent validity (correlation) for the WRAT and the Gates-MacGinitie standardized tests, the relatively consistent negative relationships between these measures and grades is a puzzling issue. Most of the correlations between the standardized tests and the gpa for the students were negative and statistically significant although the tests themselves were in good agreement. Realizing that gpa's are combined marks from many cognitive areas other than reading does not satisfactorily account for the inverse relationship found. It is feasible that noncognitive components that perhaps are not dependent on reading ability (physical activities, fine art performance, classroom behavior, school attendance, etc.) account for more of the gpa variance in the population studied than in the "typical" middle classed schools where reading skills are vital for maintaining good gpa. Again, this is a problem that merits investigation if indeed these inverse relationships are valid for this population. Perhaps a close examination of teacher grading criteria as compared to the objectives measured by the standardized tests would reveal some insight into the discrepancy.

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